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*March 16, 2005*

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**APPLICATION NUMBER: 60/548,644**

**FILING DATE: February 26, 2004**

**RELATED PCT APPLICATION NUMBER: PCT/US05/06543**



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22154 U.S. PTO  
60/548644



**PROVISIONAL APPLICATION FOR  
PATENT COVER SHEET**

ATTORNEY DOCKET NO.:  
**11070/48901**

Address to:

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P.O. Box 1450  
Alexandria, VA 22313-1450

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Inventor(s) and Residence(s) (city and either state or foreign country):

**Roy J. LAHR** 944 Hammond Street, Los Angeles, California 90069

For: **MICRO CELLPHONE**

1. 2 sheets of specification.
2. 12 sheets of drawings.
3. Please charge the required application filing fee of **\$80.00 (small entity)**, and any other fees that may be required, to the deposit account of **Kenyon & Kenyon**, deposit account number **11-0600**. A duplicate of this sheet is enclosed.
4. Please direct all communications relating to this application to:  
  
Charles R. Brainard, Esq.  
KENYON & KENYON  
One Broadway  
New York, New York 10004  
(212) 425-7200 (phone)  
(212) 425-5288 (facsimile)
5. This invention was not made by an agency of the United States Government or under a contract with an agency of the United States Government.

Respectfully submitted,

Dated: February 26, 2004

By: 

Clifford A. Ulrich (Reg. No. 42,194)

KENYON & KENYON  
One Broadway  
New York, New York 10004  
(212) 425-7200 (phone)  
(212) 425-5288 (facsimile)  
**CUSTOMER NO. 26646**

### Proposed Solution

The use of a stretchable band (as, fabric) also allows a convenient place for an information banner near each numeric key. When unstretched, the inscribed characters will be diminished in size (as vertically), but when the keyboard is ready for use, the elastic band will be stretched out, and the alphabetic characters will now be enlarged, and of a size that can be easily read by the user (usually, without glasses).

### Implementation

Previous disclosures present aspects of elastic bands which can interfere with clear labeling. Rubber elastic bands can "neck down" when stretched (X direction stretching is accompanied by Y direction narrowing), although there have been means to visibly hide this characteristic from the user.

Fabric can be woven with inelastic warp threads and highly elastic wool threads, so that an iso-elastic (non-necking) stretch behavior is obtained. One convenient way of marking fabric is to use "tampon" press printing, in which dye/colorant is transferred from an inked plate to a flexible pad, and then the pad is pressed firmly on the fabric. Jacquard weaving of the character into the material is possible, but it would be complex and probably too expensive for the application.

However, until recently, the fibers used in producing elastic bands were quite large in diameter, and this interferes with producing a character inscription that will be clear when stretched (the resulting image graticulation is quite coarse).

A recent innovation in elastic bands is the use of microfibers. Such an elastic band is called "Mousselin" and sold by a notions jobber, such as "International Silks" (Beverly Boulevard in Los Angeles, California.... type 1838 is 15 mm. wide and is "black" in color). The "fineness" of the Mousselin band is remarkable, very similar in "feel" to a woman's nylon stocking material.

This microfiber elastic band has a good stretchout character, about 150%. Thus, it is sufficiently stretchable for use in positioning keycaps for use in keyboards, and in particular, very small cellphone keyboards.

When this elastic band is employed for proportionally positioning keytops during stretchout, the adjacent elastic band surface provides an ideal marking surface for inscribing alphabetic or other key labels.

An accompanying drawing is furnished, which shows the application in both perspective and cross-sectional views.

## Elastic Strip as combination keytop positioning and informational banner

### Problem:

In some types of key arrays, it is desirable to provide information near or on each keybutton. In a standard keyboard, where possible, it is desirable to position the keytops at a "touch typing" spacing, specifically, about 3/4" spacing both laterally and vertically. Once the finger tips are correctly positioned above the "home row" keys, the fingers can be directed by learned positional muscle actions to go to a desired key.

However, if the desired key is rarely used, or the typist is not sure that a key is the proper key to use, it is usual to look at the keytops for labels, either on the keytop or nearby. Once the proper keytop is located, the finger is positioned over it to depress and thus actuate the associated keyswitch.

In the case of telephone keypads, it is typical to provide alphabetic labels near the keys so that telephone numbers can be transliterated into alphabetic and numeric sequences that are more memorable than just a sequence of numbers alone. In the US, a standard alphabetic labeling sequence for each number is offered

2=ABC 3=DEF 4=GHI 5=JKL 6=MNO 7=PRS 8=TUV 9=WXYZ.

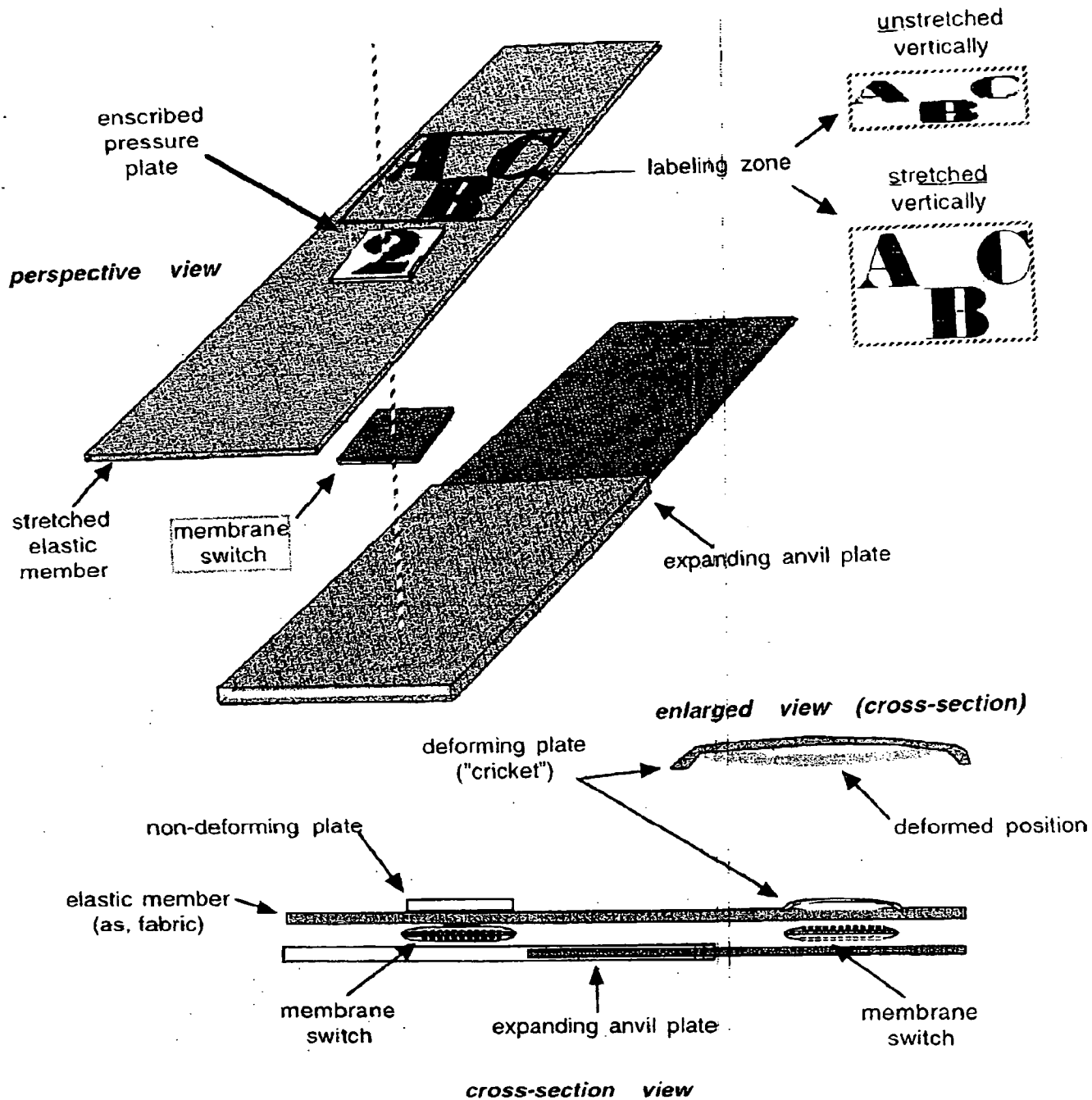
Thus, one sees plumbing trucks with signs that read "Call 1-800-TRY HARRY" since the owner feels that this is a more memorable sequence when you want a plumber than "Call 1-800-879-4277" would be. The consequence of this is that one needs to be able to easily read the alphabetic legends near each number key in order to dial the number correctly.

As cell phones become ever smaller, it is difficult to provide large enough alphabetic symbols so that they can easily be read for reasonably rapid button pressing by the user. Many cellphone letterings are so small that the user may have to utilize either glasses or a magnifier lens to adequately read the alphabetic characters.

In other countries, labeling of the number keys with symbols is common. For a label that uses multi-stroke ideographic symbols, having a character that is large enough to see easily gets very difficult when only a tiny cellphone keyboard is used.

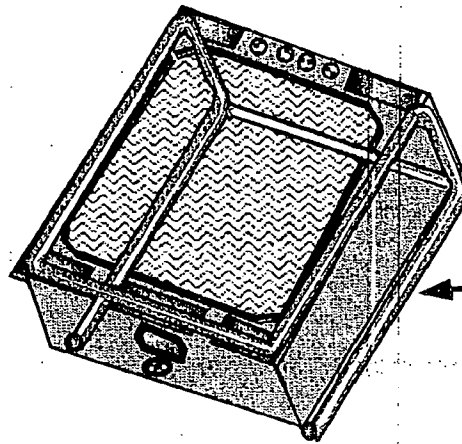
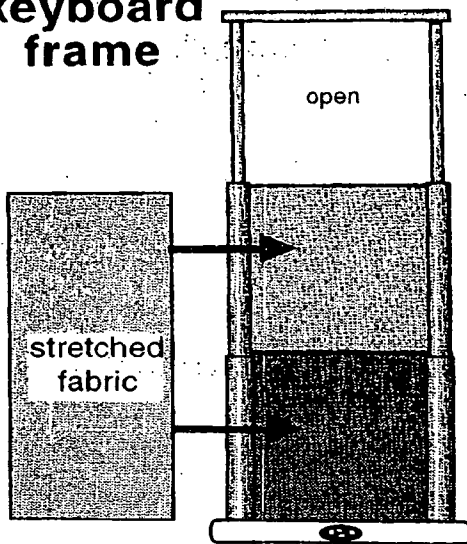
A separate disclosure will present a cellphone which utilizes a stretchable band to separate the keybuttons in a proportional manner, just as previous disclosures have presented the use of stretchable bands to allow construction of typing keyboards which can have two or more positions...compact for carrying and storage, and expanded for typing use.

# Elastic Strip used as Informational Banner

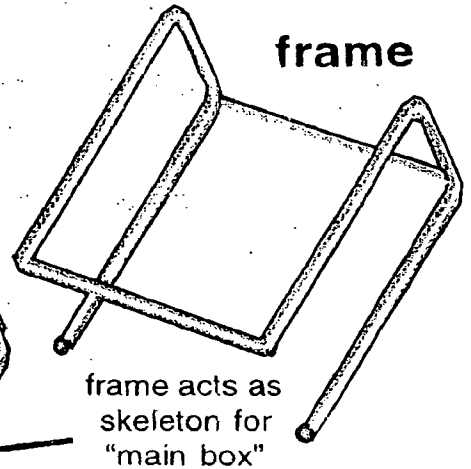


# Micro Cellphone

keyboard  
frame

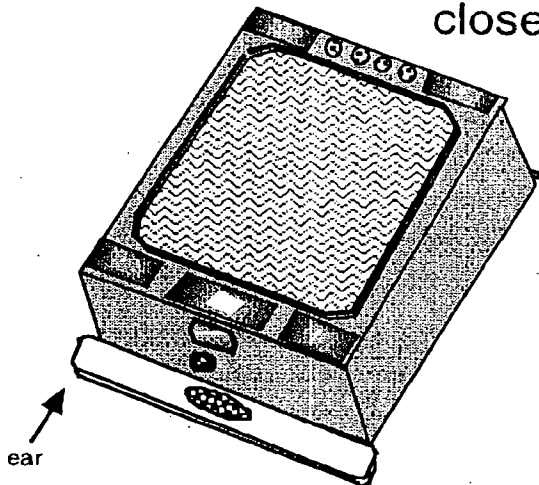


enlarged views



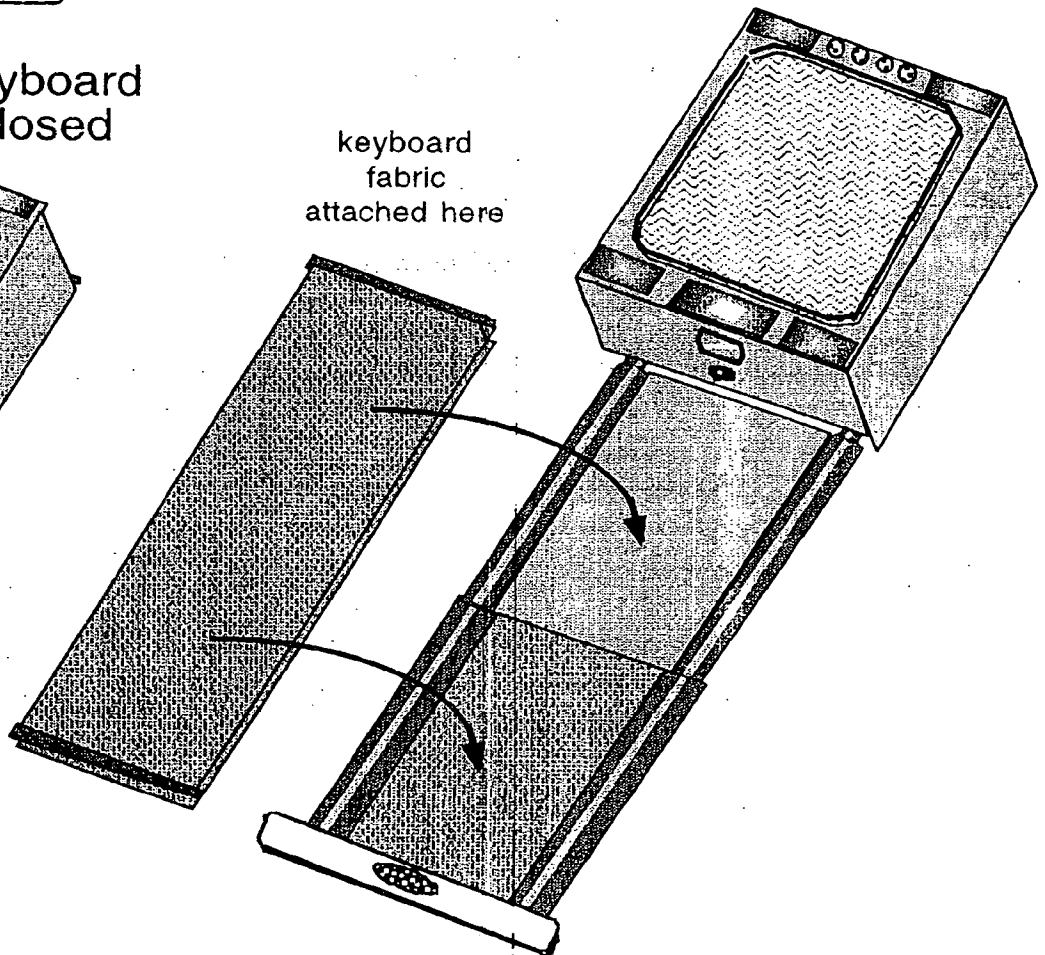
keyboard  
open

keyboard  
closed

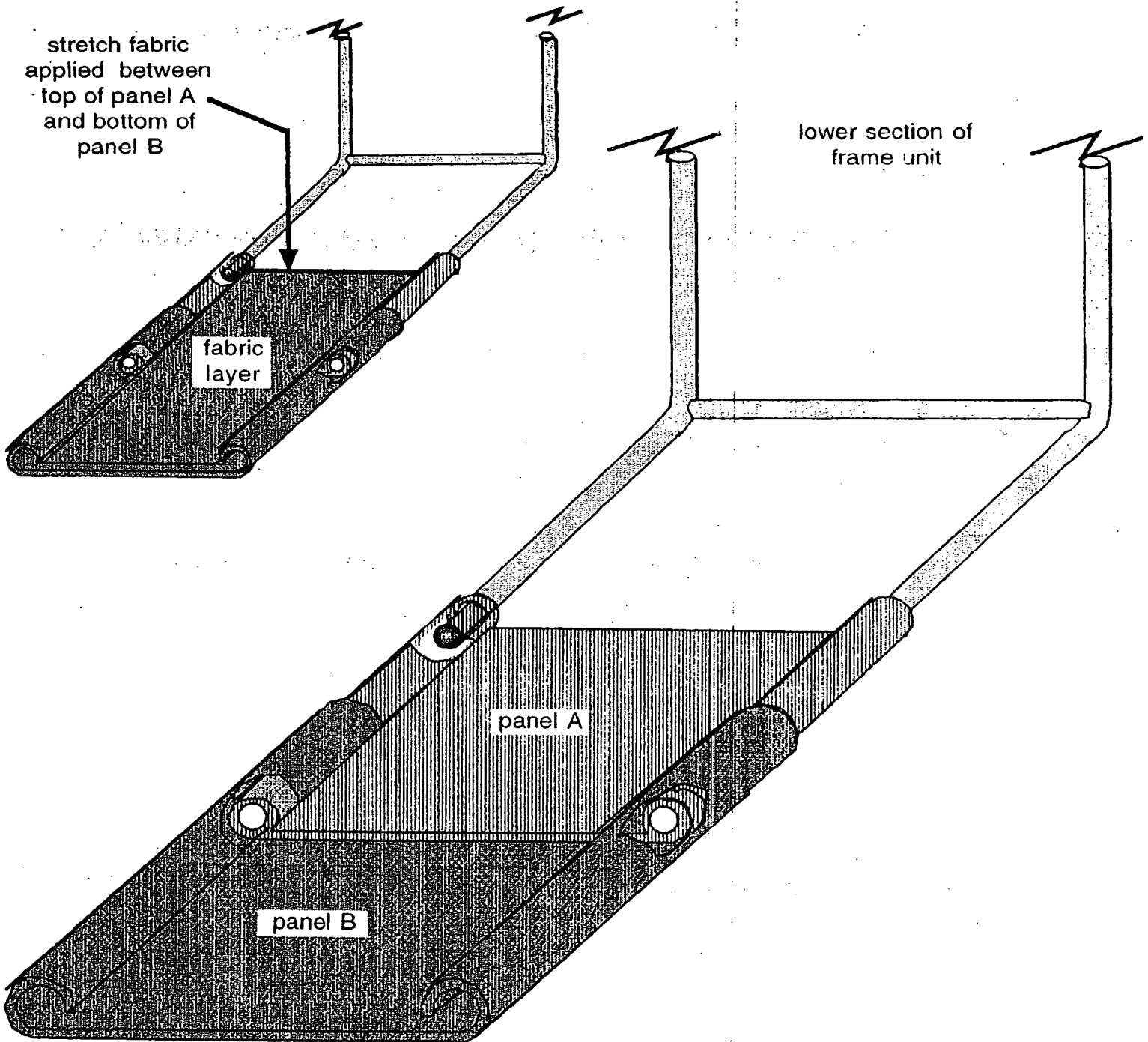


If keyboard  
pulls out,  
ears protrude  
slightly to  
provide grip.

keyboard  
fabric  
attached here

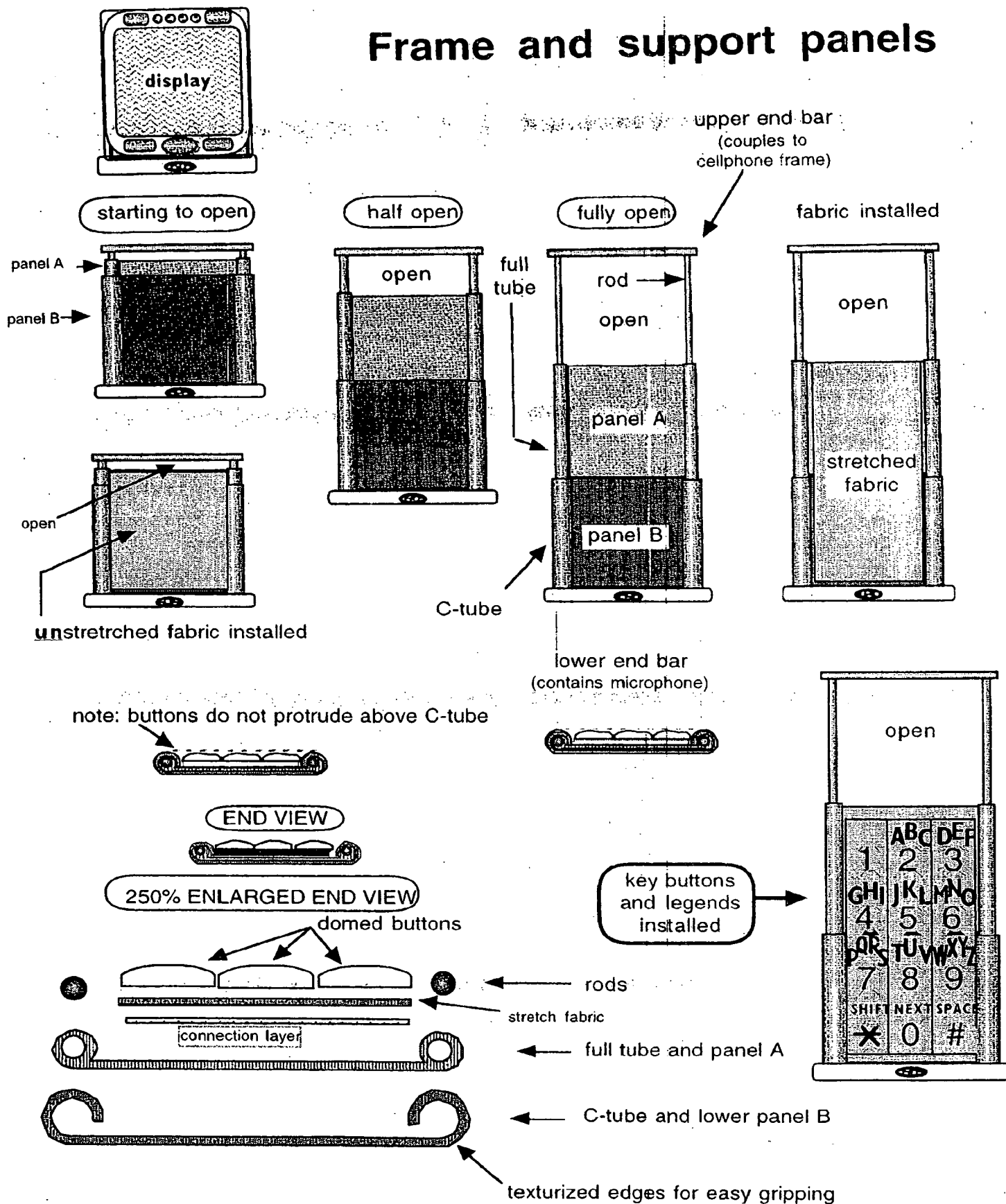


# Telescoping keyboard frame

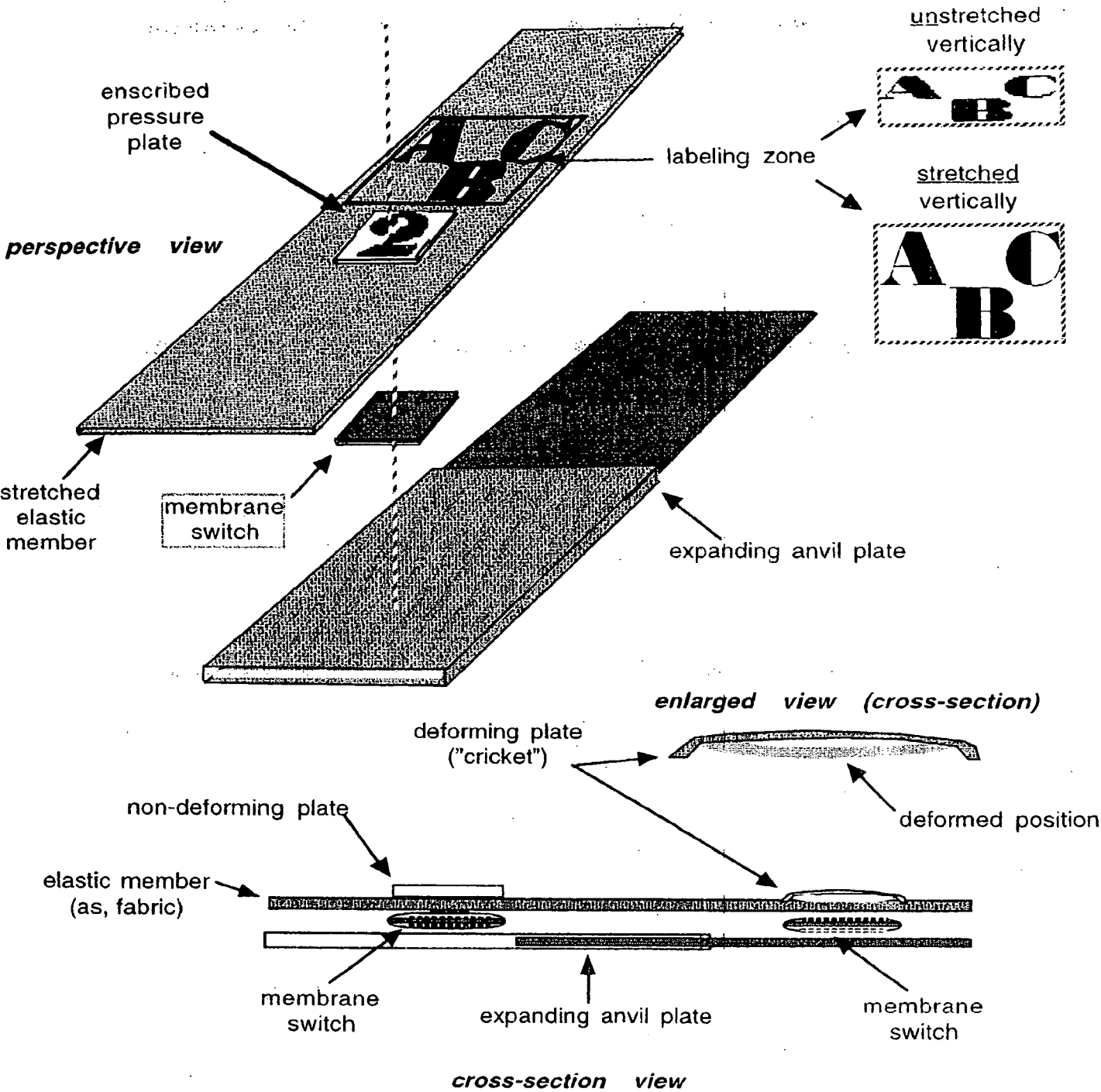




# Frame and support panels



# Elastic Strip used as Informational Banner

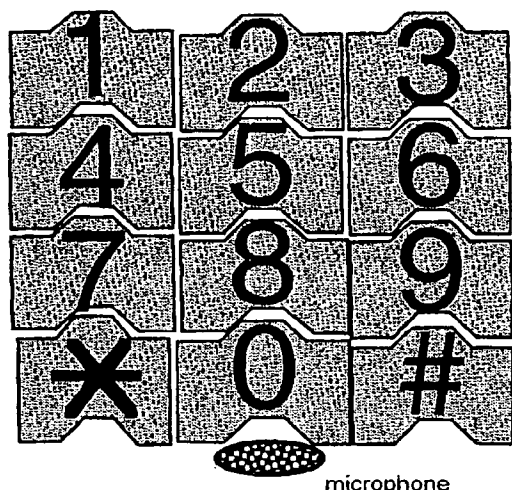


# Keyboard layout

## KYOCERA SMS LABELS

number plates

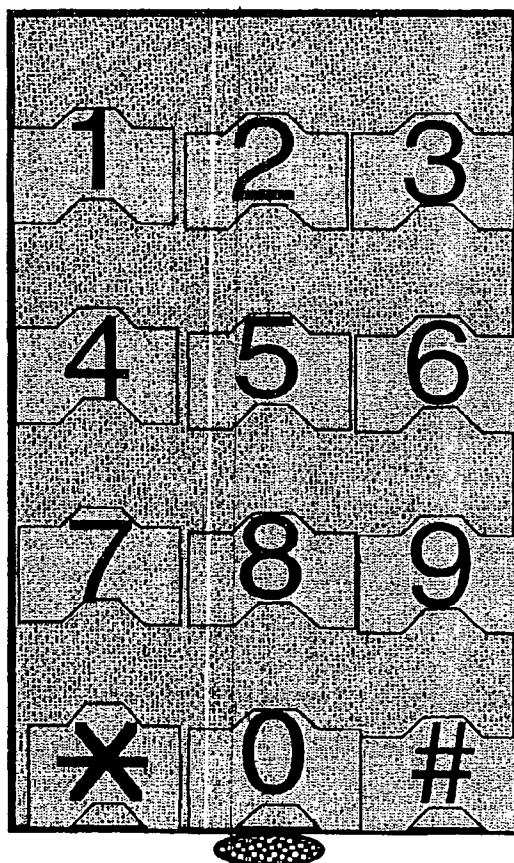
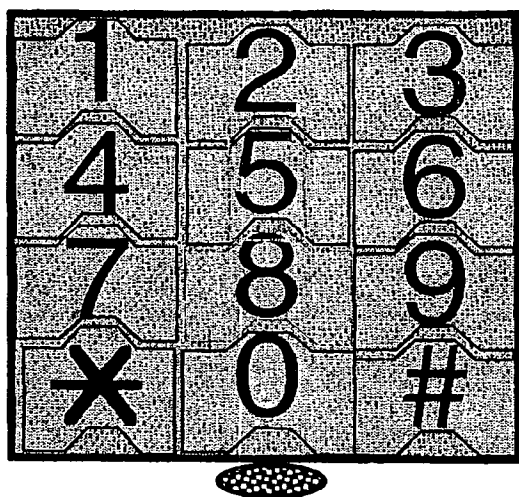
letter legends



microphone

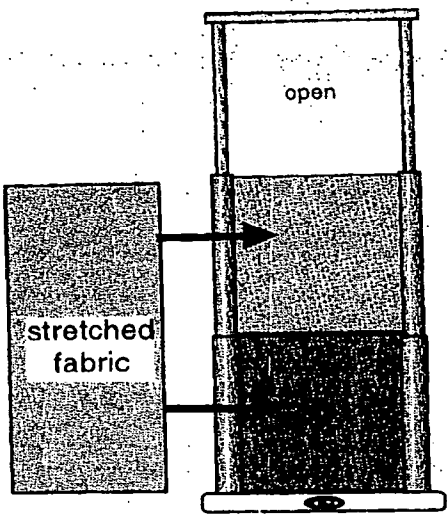
closed

open



# Cellphone "main box"

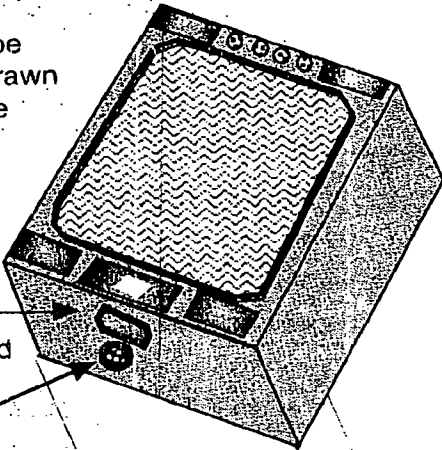
## keyboard frame



can be  
deep drawn  
case

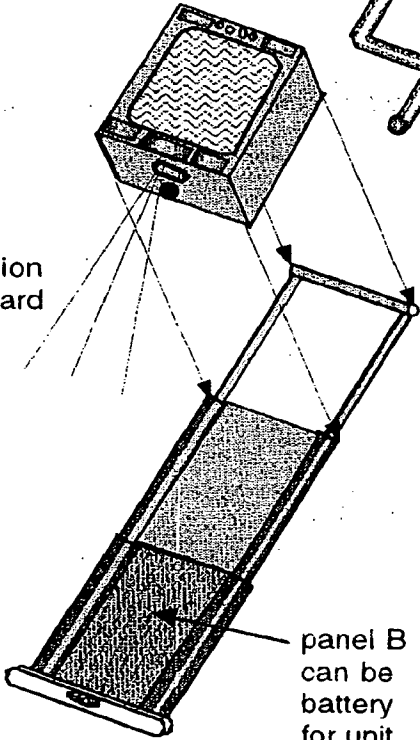
LED illuminator  
lamp..turns on  
when keyboard  
extended AND  
darkness is sensed

ambient light  
sensor

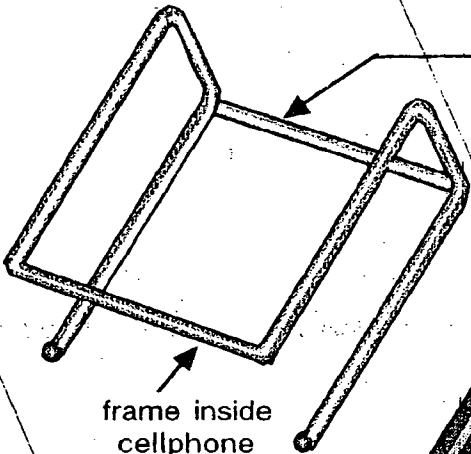


approximately  
actual size

LED  
illumination  
of keyboard

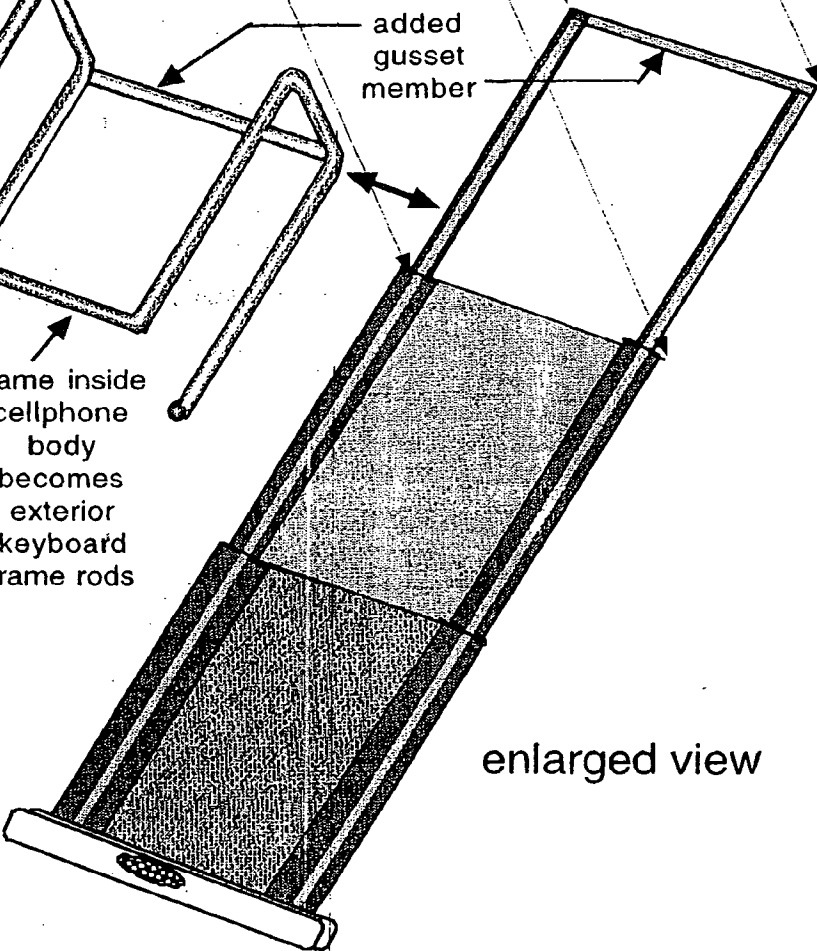


panel B  
can be  
battery  
for unit  
(or LED)



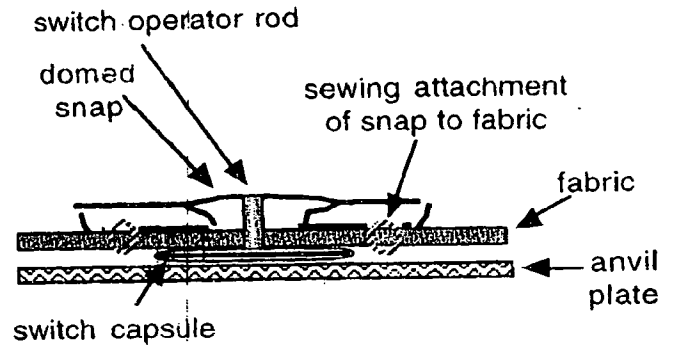
added  
gusset  
member

frame inside  
cellphone  
body  
becomes  
exterior  
keyboard  
frame rods



enlarged view

# customized number plates

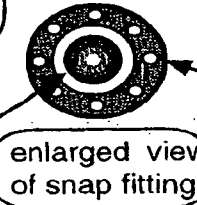


number plate snaps  
onto center snap  
post

button  
number  
plate

dome acts as  
"cricket"

domed  
snap

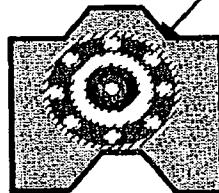


thread  
attachment  
holes

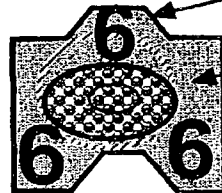
enlarged view  
of snap fitting

note: snap post can  
rectangular or other  
non-circular shape to  
ensure button plate  
orientation

snap is on back  
of number plate



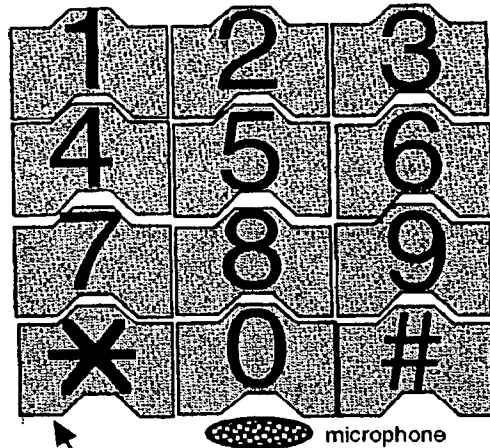
decorative "reminder" numbers



gemstone

customized  
number  
plate

# Switch module layout



keybutton plates

option  
can use row  
of 3 silicone rubber  
keys and  
'shorting switch plate

row of 3 switches



option:  
molded  
silicone  
rubber  
keys

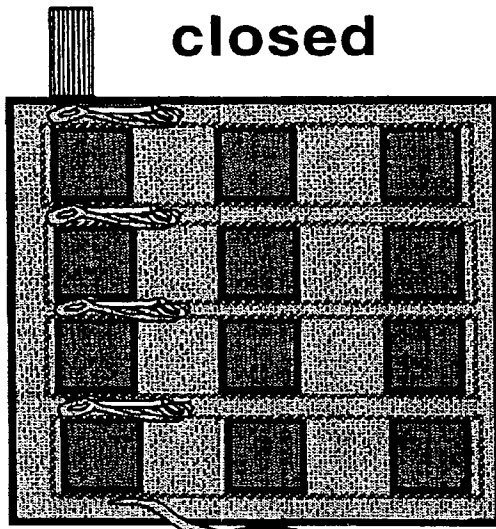
through post  
or "through bump"

fabric layer

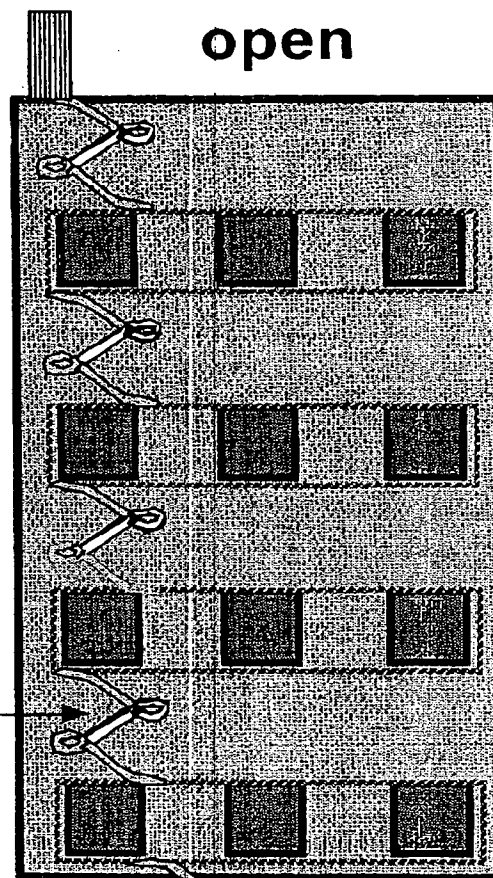
switch body  
(can be  
capsule  
OR shorting  
block)

ribbon  
to logic  
board

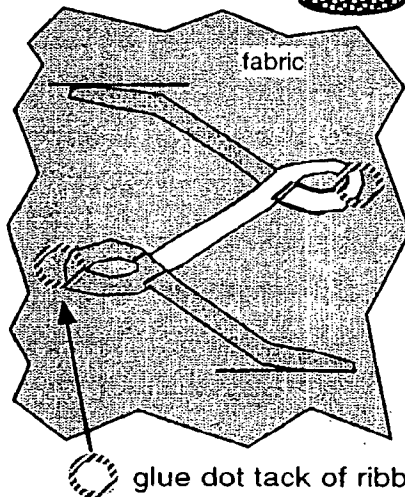
**closed**



**open**



3 wire lead  
to microphone



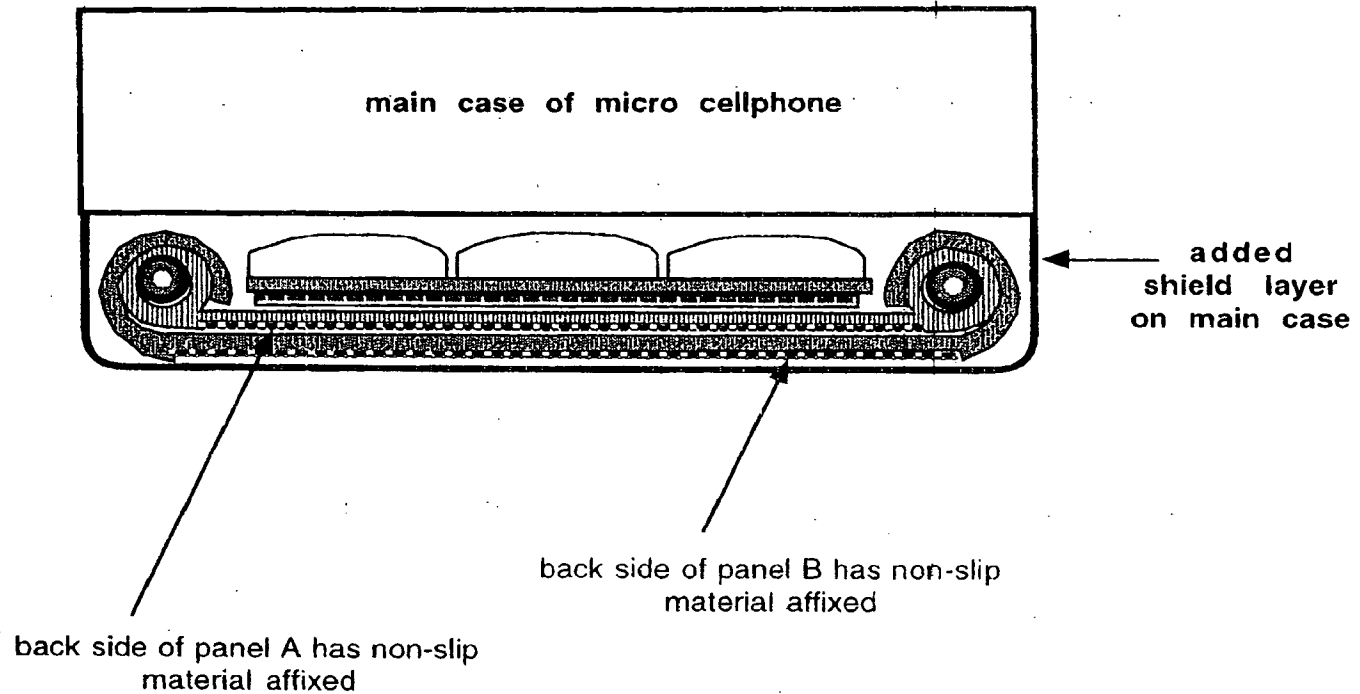
fabric

glue dot tack of ribbon to fabric

row  
interconnect  
ribbon  
when open

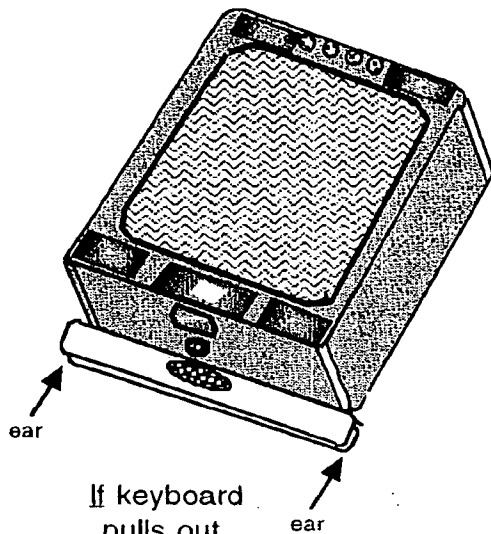
# Anti-Slip layer on back of Panels A and B

End View



# Micro Cellphone

keyboard  
closed

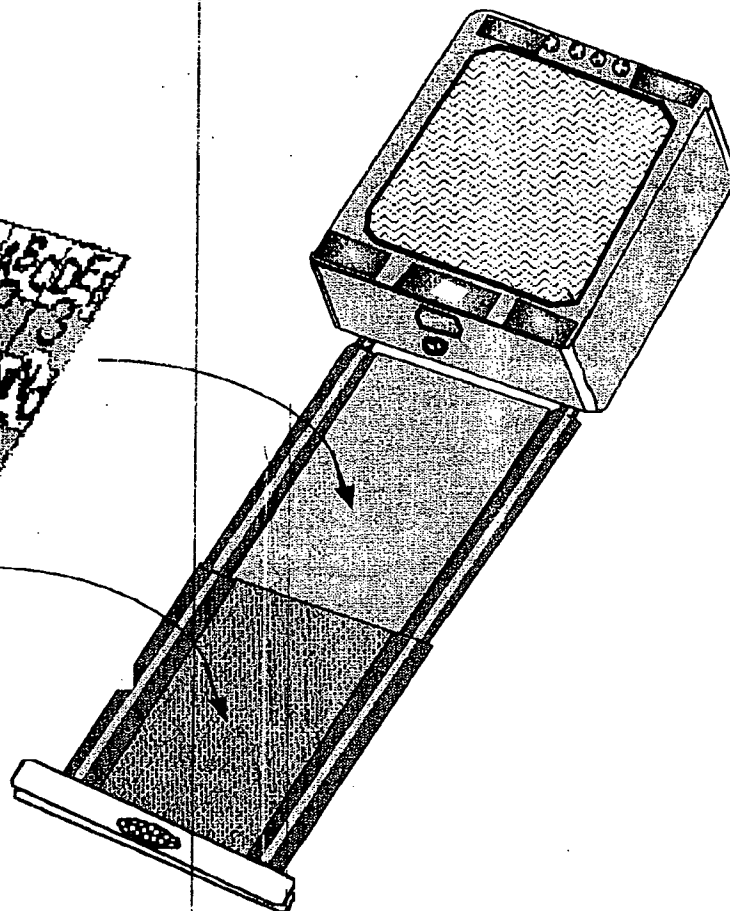


If keyboard  
pulls out,  
ears protrude  
slightly to  
provide grip.



fabric  
keyboard

keyboard  
open



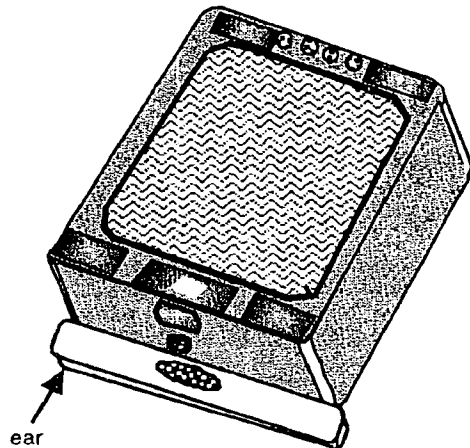


# Micro Cellphone

Non-fabric  
alternative

keyboard  
closed

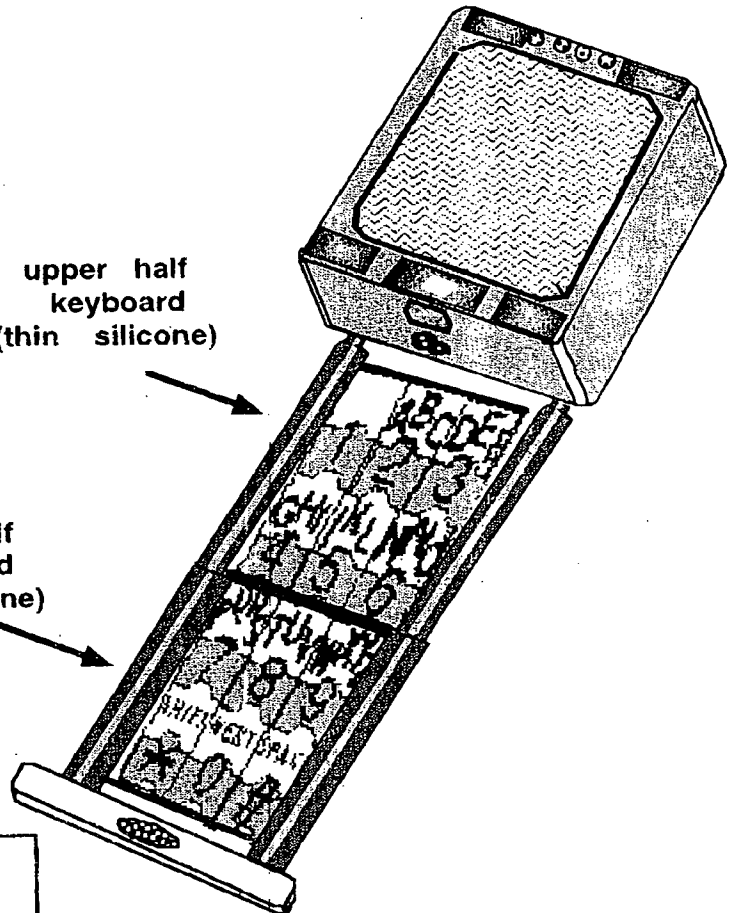
keyboard  
open



// keyboard  
pulls out,  
ears protrude  
slightly to  
provide grip.

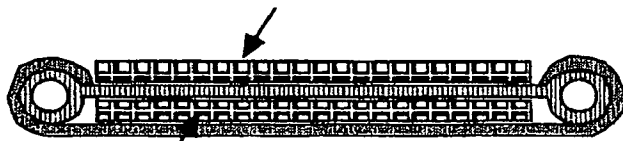
upper half  
keyboard  
(thin silicone)

lower half  
keyboard  
(thin silicone)



altered panels A and B to  
allow "thicker" keyboard units  
(as molded Silicone KB sections)

top half keyboard (as silicone unit)



bottom half keyboard (as silicone unit)